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UI Bulletin #112b

Subject: Cooling System Filling Procedure For Vehicles Equipped With the 6.0L Gasoline (L96) and the 6.6L Diesel Engine (LGH) and a Rear Auxiliary Heater

Models: Chevrolet Express
GMC Savana

Model Years: 2010 and beyond

Date: January 21, 2014

Revision Date: December 11, 2014

ADVISORY

Condition:

To avoid a customer concern of coolant loss or overheating following the addition of a rear auxiliary heater or that of repairs/modifications where draining or a loss of coolant was encountered.

Recommendation:

Air trapped in the cooling system can cause cavitation which may be damaging to some system components.

Please review and use the procedures for Cooling System Filling (Vac-N-Fill) after all cooling system repairs are made.

When filling the cooling systems on vehicles that have been upfit with rear heaters, such as ambulances or buses, ensure that the rear heater is purged of all air.

Some vehicles may have the rear heater mounted higher than the coolant bottle. Some rear heater units may have been fitted with shut off valves and/or coolant pumps.

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It may be necessary to contact the vehicle upfitter for a procedure to make sure that the rear heater is flowing coolant and all air is purged from the system.

One suggestion to help ensure that all air has been removed from the cooling system is to drive the vehicle through several, up to five, thermal cycles after performing the Vac-N-Fill procedure. While driving the vehicle, make sure there is coolant flowing through the rear heater system. Monitor the coolant level in the surge tank before and after each thermal cycle and add coolant as needed. When the coolant level in the surge tank remains constant before and after the drive cycles, all air should be purged from the system.

Vac-N-Fill Procedure:

Warning:

With a pressurized cooling system, the coolant temperature in the radiator can be considerably higher than the boiling point of the solution at atmospheric pressure. Removal of the surge tank cap, while the cooling system is hot and under high pressure, causes the solution to boil instantaneously with explosive force. This will cause the solution to spew out over the engine, the fenders, and the person removing the cap. Serious bodily injury may result.

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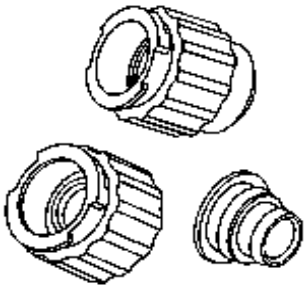
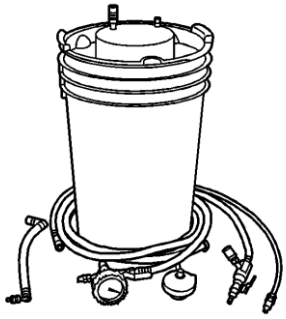
Notices:

The Vac-N-Fill procedure requires the use of the following special GM tools or equivalent.

	J 42401 Radiator Cap and Surge Tank Test Adapter
	GE 47716 Vac-N-Fill Coolant Refill Tool

Warning:

To prevent boiling of the coolant/water mixture in the vehicles cooling system, do not apply vacuum to a cooling system above 49°C (120°F). The tool will not operate properly when the coolant is boiling.

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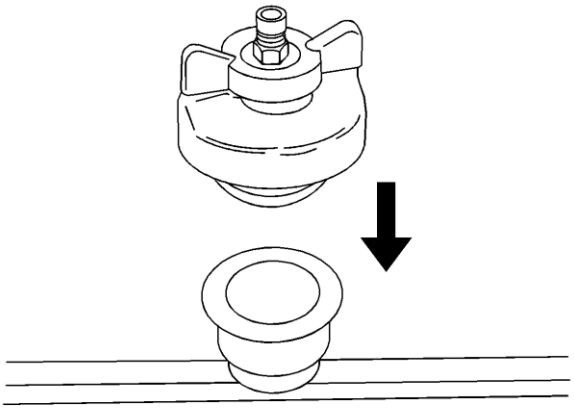
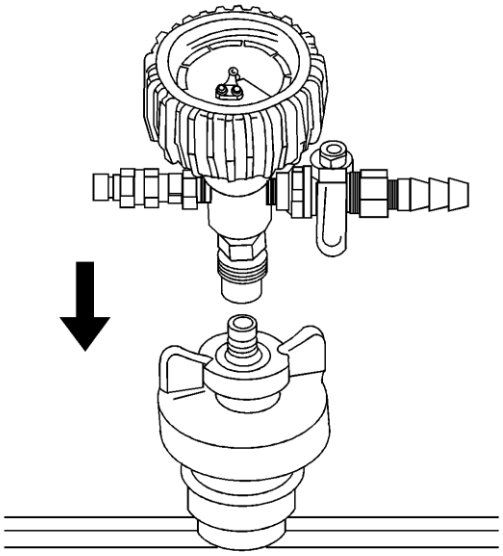
1. Install the *J 42401* (or equivalent) radiator cap and surge tank test adapter.



2. Attach the Van-N-Fill cap to the vehicles coolant fill port.



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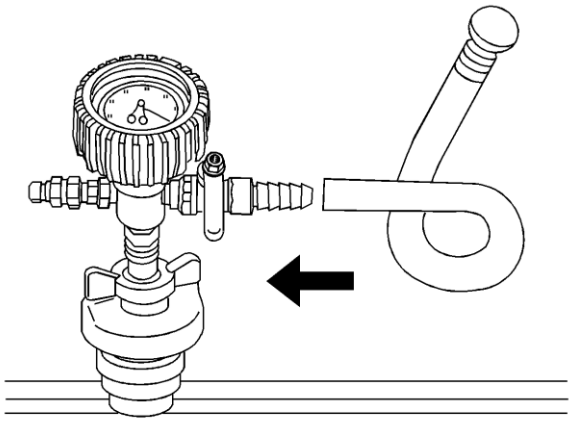
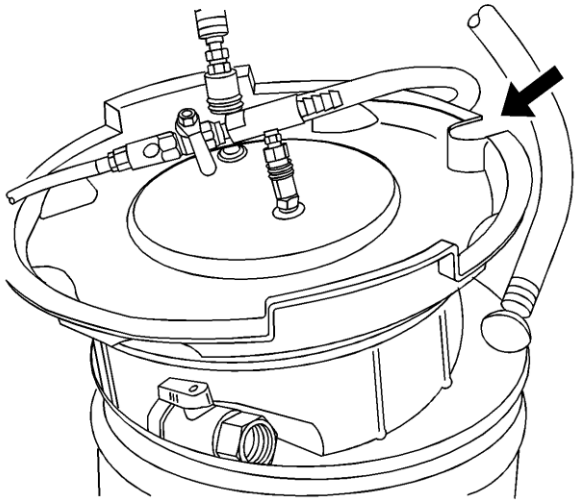
3. Attach the vacuum gauge assembly to the Vac-N-Fill cap.



4. Attach the fill hose to the barb fitting on the vacuum gauge assembly.

   Ensure that the valve is closed.



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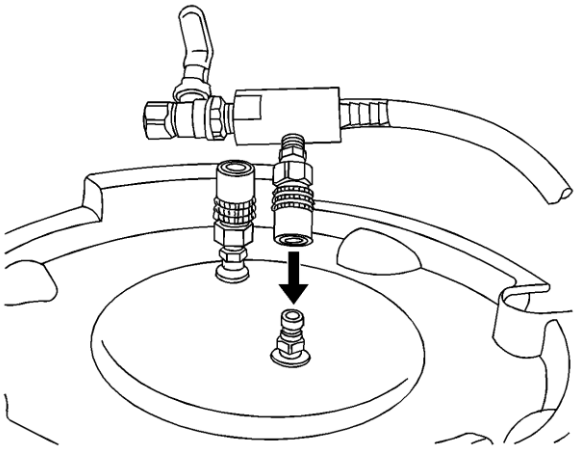
Note: Use a 50/50 mixture of DEX-COOL antifreeze and clean, drinkable water. Always use more coolant than necessary. This will eliminate air from being drawn into the cooling system.

5. Pour the coolant mixture into the graduated reservoir.
6. Place the fill hose in the graduated reservoir.

Note: Prior to installing the vacuum tank onto the graduated reservoir, ensure that the drain valve located on the bottom of the tank is closed.

7. Install the vacuum tank on the graduated reservoir with the fill hose routed through the cut-out area in the vacuum tank.



8. Attach the venture assembly to the vacuum tank.

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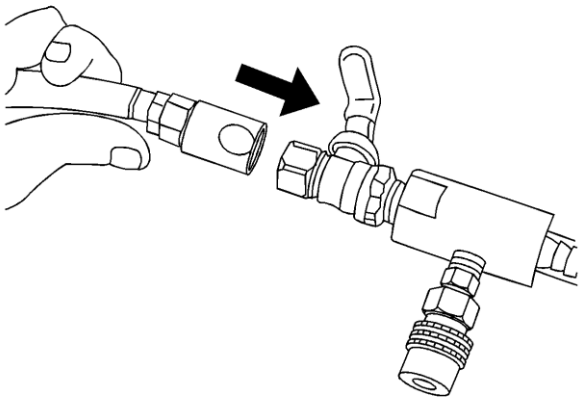
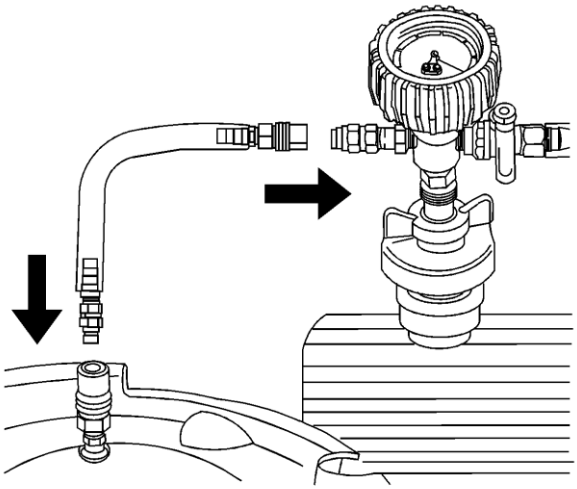


9. Attach a shop air hose to the venture assembly.

   Ensure the valve on the venture assembly is closed.



10. Attach the vacuum hose to the vacuum gauge assembly and the vacuum tank.
11. Clamp off the overflow hose.

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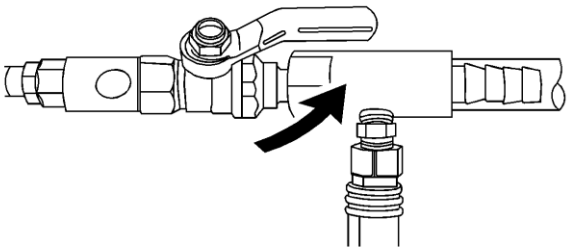
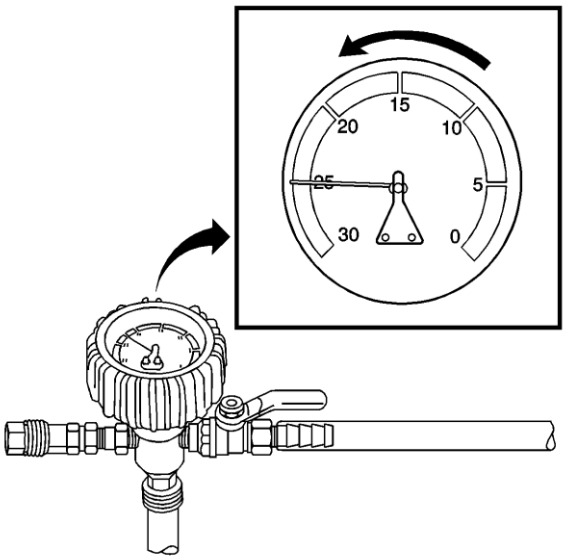


12. Open the valve on the venture assembly. The vacuum gauge will begin to rise and a hissing noise will be present.



13. Continue to draw vacuum until the needle stops rising. This should be 610–660 mm Hg (24–26 in Hg).

    Cooling hoses may start to collapse. This is normal due to vacuum draw.

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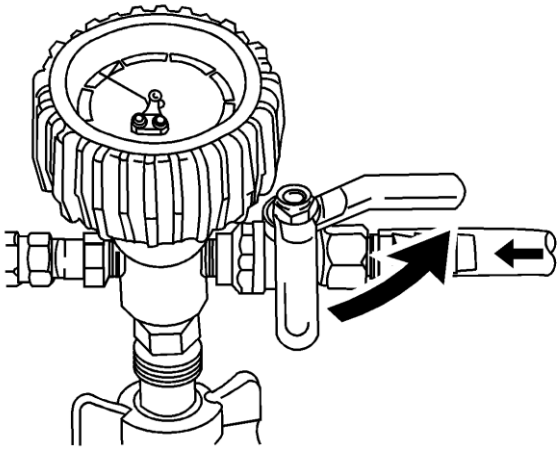
14. To aid in the fill process, position the graduated reservoir above the coolant fill port.



15. Slowly open the valve on the vacuum gauge assembly. When the coolant reaches the top of the fill hose, close the valve. This will eliminate air from the fill hose.
16. Close the valve on the venture assembly.
17. If there is a suspected leak in the cooling system, allow the system to stabilize under vacuum and monitor for vacuum loss.
18. Open the valve on the vacuum gauge assembly. The vacuum gauge will drop as coolant is drawn into the system.

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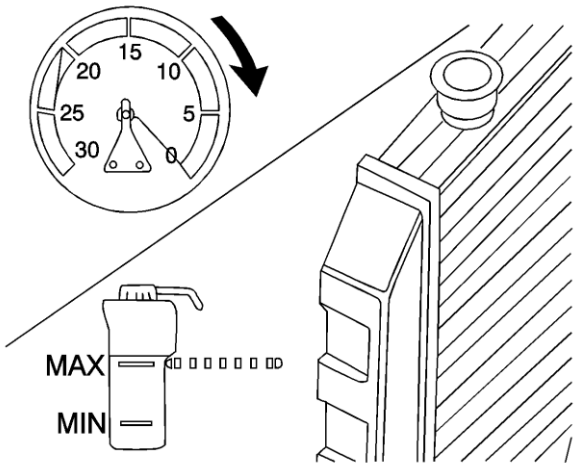

19. Once the vacuum gauge reaches zero, close the valve on the vacuum gauge assembly and repeat steps 11–17.
20. Remove the *J 42401* radiator cap and surge tank test adapter.
21. Detach the Vac-N-Fill cap from the vehicles coolant fill port.
22. Add coolant to the system as necessary.
23. Inspect the concentration of the coolant mixture using *J 26568* coolant and battery tester.

    Note: After filling the cooling system, the extraction hose can be used to remove excess coolant to achieve the proper coolant level.

24. Detach the vacuum hose form the vacuum gauge assembly.

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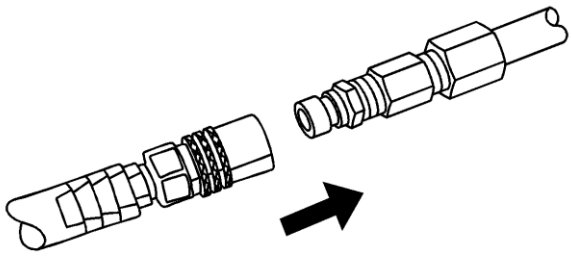
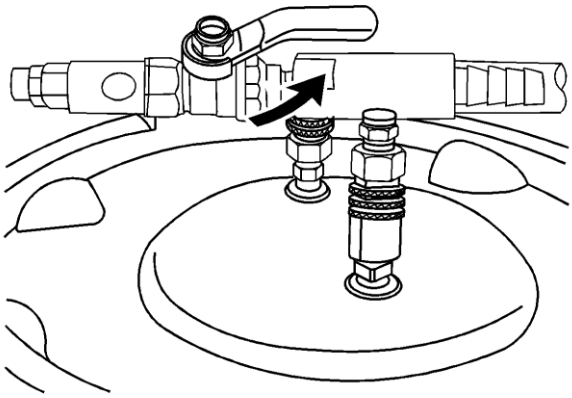


25. Attach the extraction hose to the vacuum hose.



26. Open the valve on the venture assembly to start a vacuum draw.

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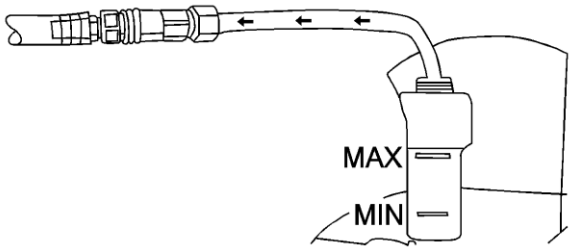

27. Use the extraction hose to draw out coolant to the proper level.
28. The vacuum tank has a drain valve on the bottom of the tank. Open the valve to drain coolant from the vacuum tank into a suitable container for disposal.

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